field in which many of the advances now involve reductionist analysis at the molecular level or in vitro analysis using cellular assays. Janeway and Travers never let us forget that the ultimate test involves efficacy of the in vivo model and of the intact immune system. They use their summaries to drive home such important messages.

The book is organized into five parts, with an overall introduction to cells/molecules/organs, recognition, lymphocyte development, and B and T cell responses, finishing with the involvement of the immune system in health and disease, setting all issues regarding the absence of infection (allergy, transplantation, and autoimmunity/self-reactivity) in a separate chapter. Each chapter is in modular form, comprised of three or four key sections, within which each highly focused page-long module is accompanied by roughly one illustration. The modular headlines are in the form of declarative sentences, and each section as well as each chapter has a brief but valuable summary. Presumably, some modules can remain unchanged until eternity while others may undergo significant changes before the subject finally reaches maturity over the course of the annual rewrites. The promised annual editions will surely tax the authors, but it is a worthwhile endeavor to maintain up-to-the-minute currency in this field, and its vitality will surely guarantee a top position among available texts. The modular structure should have allowed a loose-leaf format with the exchange of certain pages annually.

Many experimental systems are described in the course of each of the chapters. In no case is there direct attribution to the investigators involved, although the excellently chosen and recent modular reference lists could be consulted for further reading. (It would seem that sufficient space is available, at least under figure legends for citing the author and the source of the experiment shown.) This may be a flaw that would affect new but mature readers from a different discipline who want to turn immediately to the original or related articles. Although the connection to the source paper and authors is severed, the style throughout presents a direct and concise explication of the original experiments, along with necessary introductory material and a full description of the implications of the work. Sometimes the authors even suggest future experiments!

It is easy to follow the direction of the intellectual arguments, but it is somewhat harder to find yourself within the book. The page numbers at the top of each page are written as 1:24 (chapter 1, page 24), while each module is given a different number, for example 1-15 (the differentiating dash is important), and the third number on page 1:24 is Figure 1.26. It doesn't take long to acquaint oneself with the scheme, but a less subtle possibility would be giving each chapter a Roman numeral and an actual page number—for example, III-137 substituting for 3:19. Using the present method, the summary to part I of the book and the introduction to part II, among others, lie in some no-man's land, pageless.

To point out another minor failing, when the figures are a chief attraction of a book, it becomes necessary to pay special attention to their implications, to structural ambiguities in the shapes and modes of interactions, as well as to subtle changes in color. I will cite only one example. In Figure 11.41, T cells from an immunized mouse are transferred to a new syngeneic mouse: the authors/illustrator choose to change the color of the mouse, which falls outside the implied convention that syngeneic animals should be of the same color. Some other way could be found to distinguish the new recipient of syngeneic tissue. Also in this figure, spinal cord homogenate in complete Freund's adjuvant is shown being injected into the tail vein, which surely would never be done in reality. Other mice in separate figures are injected in different places on the body—no standard convention is used. Rare figures have a wrong legend, and in other cases, the legend title doesn't actually describe the experiments shown.

One further problem I noted was the index, which, although quite thorough in certain areas, is insufficiently cross-referenced, especially to the figures. For example, in Figure 5.10, its legend, and the surrounding text, there appears interesting information about the regulation of RNA transcription from immunoglobulin gene segments, but there are no listings for either "enhancer" or "promoter" in the index (one must look for "immunoglobulin molecule—gene enhancer"). Likewise, such useful terms as "CD45 isoforms" could be added to the index along with CD45RA and RO, only known to the cognoscenti.

In summary, the Janeway–Travers text represents an excellent place to start thinking about immunology either for the *Cell* reader or the undergraduate. The former should not expect a thorough exploration of any one problem—this is not its avowed intent; but using the carefully selected bibliography and authoritative review(s), the sophisticated nonimmunologist should readily reach a frontline level. The latter will also gain a graphic, lively, and sound introduction to the whole realm of immunobiology; supplemented with a judicious choice of extra readings, to explore the details of landmark experiments thoroughly, the undergraduate should also thrive.

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